

FlightMirage an aircraft position program based on the popular Dump1090 plane monitor app but in a Microsoft Windows 10, 8 or 8.1 Win32 app.

This is still called a beta version but is pretty much finished now. It does not have it's proper name yet, for now the program file is called PMTest2.exe.


The app has the same basic functionality as the Open Source program Dump1090 with a couple of extra modes for displaying aircraft on a Trekbuddy map. You can find more on the web about Dump1090.

PMTest2.exe will display local aircraft details received through a USB radio dongle. PMTest2.exe does not have the Dump1090 network code installed and can not upload aircraft data to the web. It can download and display aircraft positions in your displayed map area using the API at the opensky-network.org website using a .json file. I have called this Oneshot.

PMTest2.exe will eventually be called FlightMirage when it is finished.

It will display a text list of local aircraft the same as Dump1090 but with more lines and a nicer display.

The positions of those aircraft can also be displayed on a Trekbuddy format map.

 <http://www.stevematt.f9.co.uk/flightmirage/PMTest2.png>
The Windows 10 app can be downloaded from here <http://www.stevematt.f9.co.uk/flightmirage/PMTest2.zip> Unzip the file using 7-Zip or right click it and choose Extract All. The PMTest2.exe file does not use an installer just double click the file when you want to run the app. If you have Smartscreen turned on the first time you run the PMTest2.exe program it will tell you the program is from an unknown vendor. Click on More info and run the program and after that it will start OK.

Once the PMTest2.exe has started click the Radio menu and then Flight Scanner to start receiving flight data through your USB dongle.

Click the View menu and Map to show the aircraft on your map. See lower down this web page for how to download a Trekbuddy map.

 <http://www.stevematt.f9.co.uk/flightmirage/aircraft.png>
<http://www.stevematt.f9.co.uk/flightmirage/dongle.png>

For the PMTest2.exe you will need to install Microsoft Visual C++ 2015 Redistributable Update 3. It can be downloaded from the Microsoft web site at: <https://www.microsoft.com/en-us/download/details.aspx?id=53840>

PMTest2.exe is a 32 bit VS2015 C++ app and you'll need the x86 version of the C++ Redistributable vc_redist.x86.exe.

The dll's need the Visual C++ Redistributable for Visual Studio 2012

It can be downloaded from: <https://www.microsoft.com/en-us/download/details.aspx?id=30679>

You'll need the x86 version of the VS2012 C++ Redistributable vc_redist.x86.exe, It's the same name as the VS2015 file but is different so when you download it save it with a different name

You can run PMTest2.exe on earlier versions of Windows from version 8 onwards but you might need to install the latest

Microsoft .NET Framework 4.6.1

from

<https://www.microsoft.com/en-us/download/details.aspx?id=49982>

Trekbuddy maps.

The Trekbuddy map viewer came from one of my earlier programs GPSSC. Have a look at these GPSSC web pages for ways of making Trekbuddy maps.

<http://www.stevematt.f9.co.uk/ukspeedcamera/trekbuddy.html>

<http://www.stevematt.f9.co.uk/ukspeedcamera/maperitive.html>

Mobile Atlas Creator is best for creating Trekbuddy maps of larger areas up to zoom level 11. For smaller areas at higher zoom levels then it may be better to use [Maperitive](#).

Both these programs can be used to create Trekbuddy maps from OpenStreetmap web sites. If you have an earlier version of Mobile Atlas Creator from a few years ago when it was called Trekbuddy Mapmaker you might also be able to download Arcgis and Bing maps.

PMTest2.exe calculates the longitude and latitude of the map tiles by presuming that they are in OpenStreetmap format. As they would be if you use Mobile Atlas Creator to download a set of map tiles. Because the Earth is not a perfect sphere and the way WSG84 latitudes are measured, latitudes nearer the Earths poles have more distance. If you make a set of map tiles by some other method for example by using TB Cutter then the tile latitudes and aircraft positions in PMTest2.exe might be slightly out.

USB radio drivers.

You need to have the WinUSB driver installed for your USB device. If you have installed the TV driver that comes with the USB stick you will need to delete that and replace it with the WINUSB driver. There is a utility app on the web called Zadig that can help you do that.

Here is a screen shot of my driver setup.

 <http://www.stevematt.f9.co.uk/flightmirage/winusb.png>

More info on installing Winusb is here

<http://www.stevematt.f9.co.uk/flightmirage/usbstick.html>

Aircraft position indicator.



Making Pan images.

Pan images allow you to quickly move to a different position on the map.

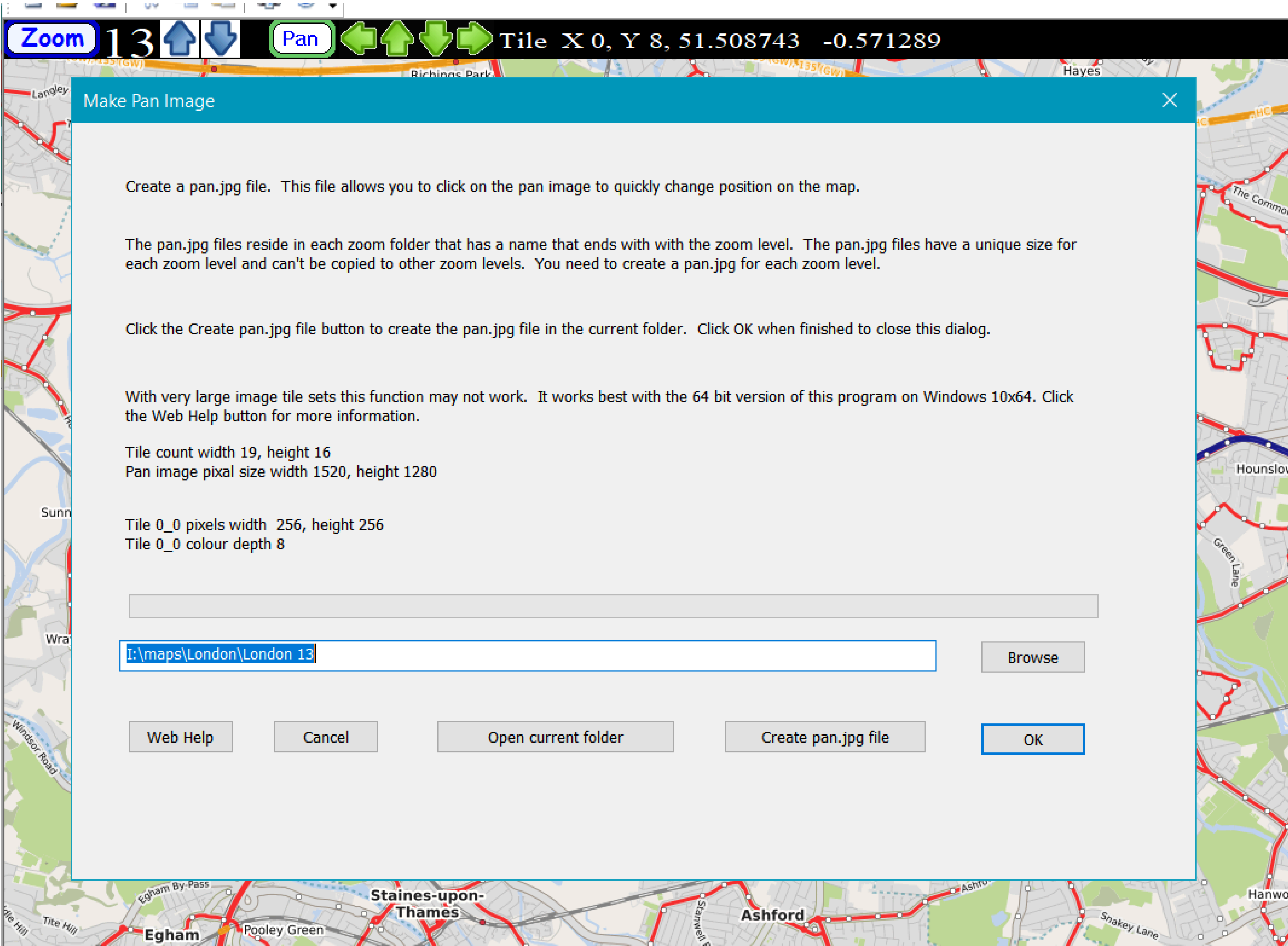
Before you make a Pan image make sure that PMTest2.exe has been started without the radio started. If it is enabled in Autostart turn it off and restart the program. If the screen is redrawn while a Pan image is being made it makes it fail.

In the Make Pan Image dialog there is the option to Browse for a folder or you can type in a different folder name.

This will be ignored by the dialog, it will only make a Pan image for the current displayed zoom level.

Make sure you have the map displayed at the zoom level that you want and then select Make pan files from the Trekbuddy menu.

Close the Make Pan Image dialog and change the map zoom level for each Pan image file you want to make.



Import aircraft descriptions.

A program feature under development is to be able to display the aircraft model on the aircraft label. This is going to be done by using a look up file containing the ICAO codes, the aircraft model, the owning company and the date the aircraft was registered. This feature is now written and functional. You can create this file by using the DB menu and Import from json files. The json files come from the www.adsbexchange.com website here <https://www.adsbexchange.com/data/#> For example, June 20th's data can be downloaded at the following URL: <http://history.adsbexchange.com/Aircraftlist.json/2016-06-20.zip>. Extract the json files to a folder using a utility like 7zip or Windows Extract All. Use FlightMirage's dialog to extract the model data to the file Importeddata.csv in the folder where you have PMTest2.exe. For more information see <http://www.stevematt.f9.co.uk/flightmirage/json.html>. You can download my own lookup file from here <https://flimix.wixsite.com/filecab/db> It's 5.3MB zipped. Unzip it into the same folder as PMTest2.exe. Don't forget to remake the programs index file. See <http://www.stevematt.f9.co.uk/flightmirage/useindex.html> for how to do that.

Aircraft model options.

<http://www.stevematt.f9.co.uk/flightmirage/label.html>.

More about how the Importeddata.csv file is used.

<http://www.stevematt.f9.co.uk/flightmirage/labelmore.html>.

Using an index file to speedup the programs search for aircraft models.

<http://www.stevematt.f9.co.uk/flightmirage/useindex.html>.

How map boundaries are calculated.

<http://www.stevematt.f9.co.uk/flightmirage/boundaries.html>.

Replaying aircraft positions by using ADSBExchange JSON files.

<http://www.stevematt.f9.co.uk/flightmirage/replay.html>.

Oneshot - download a single JSON file of aircraft in your map area using the API at opensky-network.org and display the aircraft.

<http://www.stevematt.f9.co.uk/flightmirage/oneshot.html>.

Extracting a geographic area from a set of ADSBExchange JSON files.

<http://www.stevematt.f9.co.uk/flightmirage/extract.html>.

Filter aircraft to show on the map only those aircraft that are between certain heights.

<http://www.stevematt.f9.co.uk/flightmirage/filter.html>.

Using FlightMirage without a radio device.

<http://www.stevematt.f9.co.uk/flightmirage/noradio.html>.

Using Auto update

Auto update searches through a file called aircraftDatabase.csv and adds any entries to this programs to this programs data file Importeddata.csv.

It only does this for aircraft that are currently seen in your local area by your USB dongle. You can get the file aircraftDatabase.csv from

<https://opensky-network.org/datasets/metadata/>

Put it in the same folder on your PC as PMTest2.exe. This is fairly slow but gives you a way of keeping your Importeddata.csv up to date.

There is no warranty with FlightMirage. The demo is free. You use it entirely at your own risk. FlightMirage is still in Beta testing and although it is functionally mostly complete you will find some menu items that have not been coded yet. It should work with various TV cards and devices as dump1090 does but has only been tested with the one shown here.

If you are looking for the version of Flightmirage that has the experimental Brother printer firmware send dialog it is here <http://www.stevematt.f9.co.uk/flightmirage/brother.zip>

My home page

<http://www.stevematt.f9.co.uk>

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